



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/643,938

08/20/2003

Setsuo Nakamura

040302-0342

5392

22428

7590

01/27/2006

FOLEY AND LARDNER LLP  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

LOWE, MICHAEL S

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/643,938	Applicant(s) NAKAMURA, SETSUO	
	Examiner M. Scott Lowe	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8 and 10 is/are rejected.
- 7) ☒ Claim(s) 6 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear whether "a plurality of suction holders" are the same as "a suction holder" claimed in claim 1, line 5. For sake of examination it is assumed they are referring to the same item(s).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,8 is rejected under 35 U.S.C. 102(b) as being anticipated by Goellner (US 5,590,870).

Re claim 1, Goellner teaches a general purpose hand for a multiaxis manipulator for handling objects (not numbered), comprising:

- a frame member 33( or 34) mounted to a arm of the multiaxis manipulator; and
- a suction holder supported on the frame member and operative to move relative to the frame member, the suction holder comprising:
  - a suction pad 22 to be sucked onto the handled object;
  - a rod member 32 for rotatably supporting the suction pad 22,
  - the rod member 32 being axially movable relative to the frame member 33(or 34);
  - a resilient member 74,76, 56" for pressing the suction pad 22 toward the handled object;
  - a first locking mechanism 39 for locking axial movement of the rod member; and
  - a second locking mechanism 51',61a (or 43b,43c,61a or 52",62",etc.,see figures 1,5,6) for locking rotation of the suction pad.

Re claim 8, Goellner teaches the second locking mechanism 51',61a (or 43b,43c,61a or 52",62",etc.,see figures 1,5,6) comprises a spherical member 44 fixed to the suction pad 22, first and second contact members 51',(or 43b,43c, or 52",etc.,see figures 1,5,6) to be pressed toward each other against the spherical member therebetween, a cylinder (various items could be this broad term, see figures 1,5,6) having a piston (various items could be this broad term, see figures 1,5,6) connected to the first contact member and a cylinder body (various items could be this broad term, see figures 1,5,6) fixed to the second contact member.

Art Unit: 3652

Claims 1-3,5,7,10 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimada (JP59097886).

Re claim 1, Shimada teaches a general purpose hand for a multiaxis manipulator R for handling objects P, comprising:

a frame member 9 (or 21 or 23) mounted to a arm of the multiaxis manipulator; and

a suction holder supported on the frame member and operative to move relative to the frame member, the suction holder comprising:

a suction pad 10 to be sucked onto the handled object;

a rod member 11 (or 56) for rotatably supporting the suction pad 10,

the rod member 11 (or 56) being axially movable relative to the frame member 9 (or 21 or 23);

a resilient member 12 (or 58) for pressing the suction pad 10 toward the handled object;

a first locking mechanism 14,3,11a (and un-numbered fasteners, or 55,75,3a,etc.) for locking axial movement of the rod member; and

a second locking mechanism 3,(and un-numbered fasteners or 28,39,49,56) for locking rotation of the suction pad.

Re claim 2, Shimada teaches a plurality of first and second suction holders (see figures) provided on the frame 9 (or 21 or 23);

a first axis (not numbered) in which the first suction holder is moved to slide; and

a second axis (not numbered) in which the second suction holder is allowed to slide

together with the first suction holder, wherein the first axis is controlled by an axis

controller (not numbered) of the multiaxis manipulator.

Re claim 3, Shimada teaches the first and second suction holders (see figures) are linked by a third locking mechanism (the controls or 28,39,49,56) for locking spacing between the first and second suction holders, and the second suction holder is provided with a brake unit (the controls or 28,39,49,56) which may be actuated as the third lock mechanism is not actuated, and may be released as the third lock mechanism is actuated, and wherein the first and second suction holders may be slidable together with each other while the third lock mechanism is actuated, and merely the first suction holder may be slidable while the third lock mechanism is not actuated.

Re claim 5, Shimada teaches a general purpose hand for a multiaxis manipulator R for handling objects P comprising:  
a frame member 9 (or 21 or 23) mounted to an arm of the multiaxis manipulator; and  
a holding means supported on the frame member and operative to move relative to the frame member, the suction holder comprising:  
a suction pad 10 to be sucked onto the handled object;  
a rod member 11 (or 56) for rotatably supporting the suction pad,  
the rod member 11 (or 56) being axially movable relative to the frame member 9;  
a resilient member 12 (or 58) for pressing the suction pad toward the handled object;  
a first locking mechanism 14,3,11a (and un-numbered fasteners, or 55,75,3a,etc.) for locking axial movement of the rod member; and  
a second locking mechanism 3,(and un-numbered fasteners or 28,39,49,56)for locking rotation of the suction pad.

Art Unit: 3652

Re claim 7, Shimada teaches the rod member 11 (or 56) is hollow through which negative pressure is introduced to the suction pad 10.

Re claim 10, Shimada teaches a plurality of suction holders 10 operative to move closer to and away from each other.

Claims 1-3,5,7,10 are rejected under 35 U.S.C. 102(e) as being anticipated by Neveu (US 6,863,323).

Re claim 1, Neveu teaches a general purpose hand for a multiaxis manipulator for handling objects, comprising:

a frame member 1 mounted to a arm of the multiaxis manipulator; and

a suction holder (5,8,9) supported on the frame member and operative to move relative to the frame member, the suction holder comprising:

a suction pad 6 to be sucked onto the handled object;

a rod member 7 for rotatably supporting the suction pad 6,

the rod member 7 being axially movable relative to the frame member 9;

a resilient member 4b for pressing the suction pad 6 toward the handled object;

a first locking mechanism (8,4b)for locking axial movement of the rod member; and

a second locking mechanism (controls, 5b,3,etc.) for locking rotation of the suction pad.

Re claim 2, Neveu teaches first and second suction holders (5,8,9) provided on the frame 1;

a first axis (not numbered) in which the first suction holder is moved to slide; and



Art Unit: 3652

a second axis (not numbered) in which the second suction holder is allowed to slide together with the first suction holder, wherein the first axis is controlled by an axis controller (not numbered) of the multiaxis manipulator.

Re claim 3, Neveu teaches the first and second suction holders (5,8,9) are linked by a third locking mechanism (the controls,8,4b,5b,3,etc.) for locking spacing between the first and second suction holders, and the second suction holder is provided with a brake unit (the controls,8,4b,5b,3,etc.) which may be actuated as the third lock mechanism is not actuated, and may be released as the third lock mechanism is actuated, and wherein the first and second suction holders may be slidable together with each other while the third lock mechanism is actuated, and merely the first suction holder may be slidable while the third lock mechanism is not actuated.

Re claim 5, Neveu teaches a general purpose hand (not numbered) for a multiaxis manipulator (not numbered) for handling objects comprising:

- a frame member 1 mounted to an arm of the multiaxis manipulator; and
- a holding means (5,8,9) supported on the frame member and operative to move relative to the frame member, the suction holder comprising:
  - a suction pad 6 to be sucked onto the handled object;
  - a rod member 7 for rotatably supporting the suction pad,
  - the rod member 7 being axially movable (8,4b) relative to the frame member 1;
  - a resilient member 4b for pressing the suction pad toward the handled object;
  - a first locking mechanism (8,4b) for locking axial movement of the rod member; and



a second locking mechanism (controls, 5b,3,etc.) for locking rotation of the suction pad.

Re claim 7, Neveu teaches the rod member 7 is hollow through which negative pressure is introduced to the suction pad 6.

Re claim 10, Neveu teaches a plurality of suction holders 6 operative to move closer to and away from each other.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neveu (US 6,863,323) in view of Uemara (US 5,005,277).

Re claim 4, Neveu teaches a general purpose hand (not numbered) for (intended use, see abstract) a multiaxis manipulator (not numbered) which may handle a body side outer including a rear fender, the body side outer being provided with a door opening, the hand comprising:

a frame member 1 mounted to a arm of the multiaxis manipulator;

and a suction holder (5,9,8 )for holding the rear fender of the body side outer,

the suction holder comprising:

a suction pad 6 to be sucked onto an inner surface of the rear fender;

a rod member 7 for rotatably supporting the suction pad,

Art Unit: 3652

the rod member being axially movable (8,4b) relative to the frame member;  
a resilient member 4b for pressing the suction pad toward the body side outer;  
a first locking mechanism (8,4b) for locking axial movement of the rod member; and  
a second locking mechanism (controls, 5b,3,etc.) for locking rotation of the suction pad.  
Neveu does not teach a gauge clamp for gripping a flange provided around the door opening of the body side outer. However, Uemara teaches a gauge clamp 17,18 for gripping a flange provided around the door opening of the body side outer in order to lock the gripper into a desired vehicle body section (column 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified to have modified Neveau by Uemara to have a gauge clamp for gripping a flange provided around the door opening of the body side outer in order to lock the gripper into a desired vehicle body section.

Claim 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goellner (US 5,590,870) in view of Uemara (US 5,005,277).

Re claim 4, Goellner teaches a general purpose hand (not numbered) for (intended use) a multiaxis manipulator (not numbered) which may handle a body side outer including a rear fender, the body side outer being provided with a door opening, the hand comprising:  
a frame member 33( or 34) mounted to a arm of the multiaxis manipulator;  
and a suction holder for holding the rear fender of the body side outer,  
the suction holder comprising:

a suction pad 22 to be sucked onto an inner surface of the rear fender;  
a rod member 32 for rotatably supporting the suction pad,  
the rod member being axially movable relative to the frame member;  
a resilient member 74,76, 56", for pressing the suction pad toward the body side outer;  
a first locking mechanism 39 for locking axial movement of the rod member; and  
a second locking mechanism 51' for locking rotation of the suction pad.

Goellner does not teach a gauge clamp for gripping a flange provided around the door opening of the body side outer. However, Uemara teaches a gauge clamp 17,18 for gripping a flange provided around the door opening of the body side outer in order to lock the gripper into a desired vehicle body section (column 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified to have modified Goellner by Uemara to have a gauge clamp for gripping a flange provided around the door opening of the body side outer in order to lock the gripper into a desired vehicle body section.

***Allowable Subject Matter***

Claims 6 & 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Applicant's arguments filed 12/8/05 have been fully considered but they are not persuasive.

Applicant argued that Goellner does not teach (the newly added limitation of) a frame member mounted to an arm of a multiaxis manipulator and a suction holder supported on the frame member and operative to move relative to the frame member. However, Goellner does teach a frame member 33(or 34) mounted to an arm of a multiaxis manipulator and a suction holder 22,32 supported on the frame member 33(or 34) and operative to move relative to the frame member 33(or 34).

Applicant argued that each work holding fixture is fixedly mounted on a stationary platform 90. However, Goellner does not say that item 90 is fixed nor that the work holders must be mounted on item 90, only that they can be mounted on item 90. Item 34 and other items can meet the manipulator as currently claimed. All that is actually claimed for this limitation is that the suction holder does not remain fixed relative to the frame member. Goellner therefore meets the limitations as currently claimed.

Applicant argued that Shimada does not teach (the newly added limitation of) a frame member mounted to an arm of a multiaxis manipulator and a suction holder supported on the frame member and operative to move relative to the frame member. However, Shimada does teach a frame member 9(or 21 or 23) mounted to an arm of a multiaxis manipulator and a suction holder 10 supported on the frame member 9(or 21 or 23) and operative to move relative to the frame member 9(or 21 or 23).

Applicant argued that Shimada does not teach a rod member for rotably supporting the suction pad and the rod member being axially movable relative to the frame member. However, Shimada does teach a rod member 11 (or 56) for rotably supporting the suction pad 10 and the rod member being axially movable relative to the frame member 9(or 21 or 23). Rod 11,56 and pad 10 are connected by ball joint (13 or 57) and thus can rotate relative to each other and the frame 9(or 21 or 23). Rod 11,56 and pad 10 also can move until they are stopped by 11a or the un-numbered nut shown in the figures. Also, when the frame is considered to be item 21 the rod and pad clearly can move in relative rotation and axial translation due to the air cylinders.

Applicant argued that Shimada does not teach first and second locking mechanisms. The robot arm 3 meet the current claim limitations as it can move and locking the various items in rotation and translation. The various air cylinders (28,39,49,55) can also lock the items in various rotations and translations. Furthermore, Items 11a, 12 and the un-numbered nut are a lock in that they confine axial movement of the rod.

The examiner agrees that Neveu is a 102(e) reference and has corrected the typo on this office action.

Applicant argued that Neveu does not teach first and second locking mechanisms. However, Neveu teaches a first locking member 8 and 4b. Items 8 and 4b adjust the height and lock-in the maximum, minimum and unloaded axial positions of the rod, and are thus a lock. Regarding, the second locking mechanism, the overall

Art Unit: 3652

controls of the entire Neveu device can meet the current broad limitations. Also, when the suction pads 6 are held from rotation at any time, they are in effect locked.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., items being lockable at all positions or at particular positions, relative to what items certain limitation are applied, etc.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3652

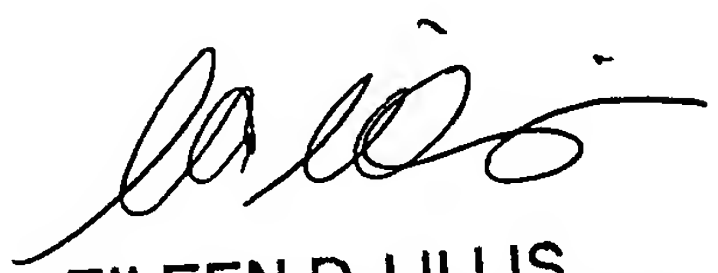
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Scott Lowe whose telephone number is (571) 272-6929. The examiner can normally be reached on 6:30am-4:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msl



**EILEEN D. LILLIS**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600